Blue Hammock Hydrologic Restoration and Beneficial Use Project (TE-10-6)

Coast 2050 Strategy - Regional #10**:** Restore hydrologic conditions of major exchange points or prevent adverse tidal exchange points between Gulf/lake, lake/marsh, bay/marsh, Gulf/bay and marsh/navigation channel locations.

Project Location - Region 3, Terrebonne Basin, Terrebonne Parish. The project area is located between Four League Bay and Bayou Dularge, encompassing Lake Mechant and the marshes north to Bayou Decade.

Problem - Grand Pass is a major tidal exchange point through the Bayou Dularge ridge, which carries higher salinity water directly from Sister Lake into Lake Mechant and the surrounding marshes. Historically, this pass did not cut straight through the ridge and was a less efficient channel than it is now. Periodic increases in salinity in Lake Mechant are contributing to the loss of intermediate and brackish marshes in the basin. Freshwater input into the basin currently comes through the GIWW and the Penchant system on the north and Atchafalaya River input from Four League Bay via Bayous Carencro and Blue Hammock Bayou. However, the size of Blue Hammock Bayou decreases substantially west of Lake Mechant, which limits the easterly flow of sediment laden river water into Lake Mechant and surrounding marshes.

Goals - 1) More efficiently utilize Blue Hammock Bayou as a means to increase the flow of freshwater, sediments and nutrients into Lake Mechant and surrounding marshes; 2) Beneficially utilize dredged material from Blue Hammock Bayou to create marsh; 3) Reduce the tidal exchange and the resulting saltwater input through Grand Pass and Buckskin Bayou; 4) Increase the retention time of freshwater and sediments within the Lake Mechant area.

Proposed Solution - 1) Conduct hydrologic modeling to determine appropriate channel sizes to accomplish the goals of the project; 2) Construct a weir in Grand Pass; 3) Construct a weir in Buckskin Bayou; 4) construct armored plugs; 5) Dredge Blue Hammock Bayou to increase the cross section; 6) Create 229 acres of marsh with the material dredged from Blue Hammock Bayou.

Project Benefits - The project will benefit a total of 43,555 acres and will protect/create 670 net acres of emergent marsh over the 20-year project life.

Project Costs – The total fully funded cost is $46,708,700 and the fully funded first cost is $38,263,800.

Risk/Uncertainty and Longevity/Sustainability: There is a high degree of risk and uncertainty associated with this project because the specific channel dimensions and degree of channel constrictions needed to accomplish the goals are unknown until hydrologic modeling is conducted. The project should continue providing benefits more than 20 after construction.

Sponsoring Agency and Contact Person: U.S. Fish and Wildlife Service
Martha Segura (337) 291-3110; martha_segura@fws.gov
Ronnie Paille, (337) 291-3117; ronald_paille@fws.gov

Project area
Rock weir
Armored plug
Marsh creation
Dredge channel

Data Source:
U.S.Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
LA Department of Natural Resources
Coastal Restoration Division

Map Date: November 13, 2001
Map ID: 200204117

Image Data:
1990 SPOT Imagery

CWPPRA PPL11
Region 3

Blue Hammock Bayou Hydrologic Restoration and Beneficial Use Project (TE-10-6)